## CAS ONLINE PRINTOUT

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(FILE 'HOME' ENTERED AT 08:50:28 ON 11 MAY 2006)

FILE 'CASREACT' ENTERED AT 08:50:34 ON 11 MAY 2006 L1 STRUCTURE UPLOADED

L2 1 S L1 FUL

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L2
     ANSWER 1 OF 1 CASREACT COPYRIGHT 2006 ACS on STN
AN
      141:37649 CASREACT
TI
      Enzymatic production of (meth)acrylic esters that contain urethane groups
IN
      Dietsche, Frank; Haering, Dietmar; Wagner, Eva; Schwalm, Reinhold; Rink,
      Heinz-Peter; Beck, Erich
PA
      BASF Aktiengesellschaft, Germany
SO
      PCT Int. Appl., 42 pp.
      CODEN: PIXXD2
DT
      Patent
LA
     German
FAN.CNT 1
                     KIND DATE
      PATENT NO.
                                                  APPLICATION NO. DATE
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                                 _____
                                                   -----
                                               WO 2003-EP13689 20031204
     WO 2004050888
                         A1
PΙ
                                 20040617
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
               CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
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     DE 10257094
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                                 20040624
     AU 2003288227
                           A1
                                 20040623
                                                  AU 2003-288227
                                                                       20031204
     EP 1570065
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                                 20050907
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                                                                       20031204
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                                20051018
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                                                 BR 2003-16803
                                                                       20031204
                                                  JP 2004-556289
     JP 2006508657
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                                                                       20031204
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US 2005-536968

20050531

PRAI DE 2002-10257094 20021205 WO 2003-EP13689 20031204

OS MARPAT 141:37649

US 2006084779

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

20060420

RX(3) OF 6 ...**F** + **C** ===> **G** 

Me OH 
$$n-BuNH$$
 O  $*H$ 

F C  $(3)$ 

A1

## CAS ONLINE PRINTOUT

YIELD 97%

RX(3) RCT F 79-41-4, C 13105-54-9 PRO G 51293-89-1

CAT 9001-62-1 Lipase CON 24 hours, 60 deg C

NTE Novozyme 435 used as catalyst

RX(4) OF 6 ...F + E ===> I

I YIELD 95%

RCT F 79-41-4, E 13027-13-9 PRO I 94201-45-3 RX (4)

CAT 9001-62-1 Lipase

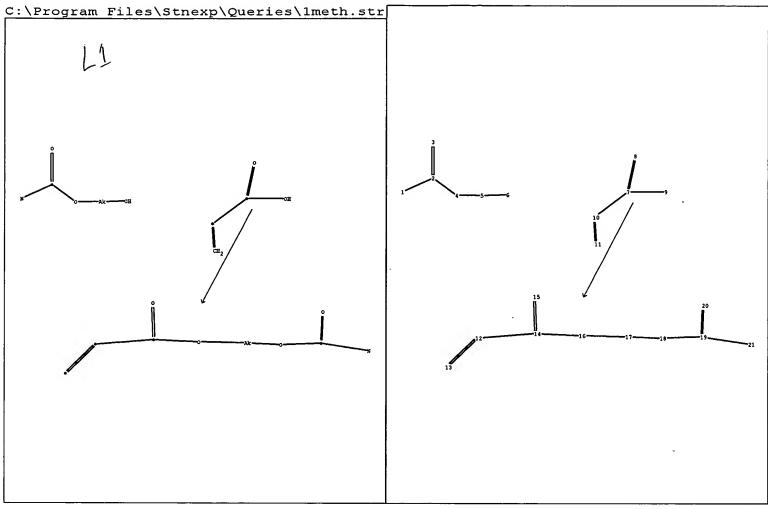
CON 24 hours, 60 deg C

NTE Novozyme 435 used as catalyst

chain nodes :

containing 1 containing 7

fragments assigned reactant/reagent role:



```
1 2 3
           4 5 6 7 8 9 10 11 12 13
                                          14
                                              15
                                                  16
                                                     17
                                                         18
                                                            19
                                                                20 21
chain bonds :
   1-2 2-3 2-4 4-5 5-6 7-8 7-9
                                  7-10 10-11 12-13
                                                     12-14
                                                            14-15 14-16
   16-17 17-18 18-19 19-20 19-21
exact/norm bonds :
   1-2 2-3 2-4 4-5 5-6 14-15 14-16 16-17 17-18 18-19 19-20 19-21
exact bonds :
   7-10 10-11 12-13 12-14
normalized bonds :
   7-8 7-9
Match level :
   1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS
   9:CLASS 10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS
   16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS
fragments assigned product role:
   containing 12
```